Patent Claims.

- 1. Sampling device for a microreaction system having an exit aperture for substances involved in the reaction, characterised in that an aperture of a suction line (9) is arranged laterally alongside the exit aperture (4), where a reduced pressure can be generated in the suction line (9) for aspiration of the substances (13) exiting from the exit aperture (4).
- 2. Sampling device according to Claim 1, characterised in that a housing (6) having an outlet aperture (14) for substances (13) exiting from the exit aperture (4) and having a passage aperture (8) for the suction line (9) is arranged around the exit aperture (4).
- 3. Sampling device according to Claim 1 or 2, characterised in that the arrangement of the aperture of the suction line (9) relative to the exit aperture (4) can be modified.
- 4. Sampling device according to one of the preceding claims, characterised in that the suction line (9) runs into a collecting vessel (10), which is connected via a valve (11) to a vacuum line (12).
- 5. Sampling device according to one of the preceding claims, characterised in that the exit aperture (4) is designed in the form of a capillary.

WO 2005/003733 PCT/EP2004/006094

6. Sampling device according to one of the preceding claims, characterised in that the sampling device (1) is heatable in the region of the exit aperture (4).

- 7. Sampling device according to Claim 6, characterised in that an electric heating device or heat coupling is provided for the heating.
- 8. Sampling device according to one of the preceding claims, characterised in that a protective-gas atmosphere which displaces the atmospheric moisture can be generated and maintained in the region of the exit aperture (4).
- 9. Sampling device according to one of the preceding claims, characterised in that an aperture of a compressed-air line (15) is arranged laterally alongside the exit aperture (4) opposite the aperture of the exhaust-air line (9), where an excess pressure of a gas can be generated in the compressed-air line (15) in order to blow the substances (13) exiting from the exit aperture (4) in the direction of the aperture of the suction line (9) by means of the gas flowing out through the aperture of the compressed-air line (15).
- 10. Sampling device according to Claim 9, characterised in that the gas used is a chemically substantially inactive protective gas.
- 11. Sampling device according to one of the preceding claims, characterised in that the sampling device (1) can be made substantially or completely of chemically resistant materials.